FORM 3	DANGEROUS WASTE PERMIT APPLICATION	I. EPA/State I.D. No.
		W A 7 8 9 0 0 0 8 9 6 7

FOR OFFICIAL USE ONLY

Application Approved	Date Received (month/ day / year)	Comments
		Approved 07/24/02

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or If this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. First Application (place an "X" below and provide the appropriate date)

☐ **1. Existing Facility** (See instructions for definition of "existing" facility. Complete item below.)

MO	DAY	YEAR
03	22	1943

*For existing facilities, provide the date (mo/day/yr) operation began or the date construction commenced. (use the boxes to the left)
*The date construction of the Hanford Facility commenced

☐ **2. New Facility** (Complete item below.)

MO	DAY	YEAR

For new facilities, provide the date (mo/day/yr) operation began or is expected to begin

B. Revised Application (Place an "X" below and complete Section I above)

☒ **1. Facility has an Interim Status Permit**

☒ **2. Facility has a Final Permit**

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. Process Code – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the codes(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. Process Design Capacity – For each code entered in column A enter the capacity of the process.

1. Amount – Enter the amount.
2. Unit of Measure – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
STORAGE:		
Container (barrel, drum, etc.)	S01	Gallons or liters
Tank	S02	Gallons or liters
Waste pile	S03	Cubic yards or cubic meters
Surface impoundment	S04	Gallons or liters
	S06	Cubic yards or cubic meters*
DISPOSAL:		
Injection well	D80	Gallons or liters
Landfill	D81	Acre-feet (the volume that would cover one acre to a Depth of one foot) or hectare-meter
Land application	D82	Acres or hectares
Ocean disposal	D83	Gallons per day or liters per day
Surface impoundment	D84	Gallons or liters
TREATMENT:		
Tank	T01	Gallons per day or liters per day
Surface impoundment	T02	Gallons per day or liters per day
Incinerator	T03	Tons per hour or metric tons per hour; gallons per hour or liters per hour
Other (use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)	T04	Gallons per day or liters per day

Unit of Measure	Unit of Measure Code
Gallons	G
Liters	L
Cubic Yards	Y
Cubic Meters	C
Gallons Per Day	U
Liters Per Day	V
Tons Per Hour	D
Metric Tons Per Hour	W
Gallons Per Hour	E
Liters Per Hour	H
Acre-Feet	A
Hectare-Meter	F
Acres	B
Hectares	Q

III. PROCESS – CODES AND DESIGN CAPACITIES (continued)

Example for Completing Section III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks; one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line No.	A. Process Code *(from list above)*			B. Process Design Capacity				For Official Use Only			
				1. Amount *(Specify)*		2. Unit of Measure *(enter code)*					
X-1	*S*	*0*	*2*	*600*		*G*					
X-2	*T*	*0*	*3*	*20*		*E*					
1	S	0	2	33,340		G					
2											
3											
4											
5											
6											
7											
8											
9											
10											

C. Space for additional process codes or for describing other process (code "T04"). For each process entered here include design capacity.

S02

The 241-CX Tank System is located east of B Plant Complex in the 200 East Area of the Hanford Facility. The 241-CX Tank System consists of three tanks--241-CX-70 (CX-70), 241-CX-71 (CX-71), and 241-CX-72 (CX-72). Processes that were associated with these three tanks are as follows.

Tank CX-70 was used for approximately 1 year in the early 1950's to store high-level process waste from the reduction/oxidation (REDOX) pilot studies. The term REDOX was used for the reduction/oxidation chemical process separating plutonium and uranium from irradiated reactor fuels. Waste removal activities for tank CX-70 were initiated in the summer of 1987 with the construction of a sluicing/pumping system. The sluicing/pumping system involved using large volumes of water to sluice/pump the solid mixed waste from tank CX-70 to the Double-Shell Tank System. Approximately 140,000 gallons (529,950 liters) of water were used to sluice the original waste volume of 10,300 gallons (38,986 liters) down to 750 gallons (2,839 liters). This volume remained in tank CX-70 until December 20, 1991, at which time the waste was placed in approved containers and transferred to the 224-T Transuranic Waste Storage and Assay Facility. The design capacity of tank CX-70 is 30,000 gallons (113,550 liters).

Tank CX-71 was used from 1952 through 1957 for neutralizing the 201-C process condensate and the coil and condenser cooling water. Tank CX-71 received process condensate from REDOX and plutonium-uranium extraction (PUREX) operations, and decontamination flushes following the completion of PUREX operations. The mixed waste remaining in tank CX-71 contains liquid process effluents that were passed through the tank for the purpose of neutralization by contact with a bed of limestone aggregate placed in the tank for this purpose. After the June 1957 decontamination flushes, tank CX-71 was placed out of service. The design capacity of tank CX-71 is 1,000 gallons (3,785 liters).

Tank CX-72 was used for approximately 1 year in 1956 when 2,305 gallons (8,725 liters) of Strontium Semiworks Complex mixed waste was transferred into the tank for storage. Tank CX-72 also was used to study the concentration of waste generated from the Strontium Semiworks Complex pilot studies. Decontamination flushes from the Strontium Semiworks Complex also might have been sent to tank CX-72. The waste in the tank was heated until nearly dry. From 1960 through 1967, tank CX-72 remained idle until taken out of service in 1967. In 1986, tank CX-72 was filled with 24 feet (7.3 meters) of grout over an 11-foot (3.4-meter) deep heel of non-liquid mixed waste. The design capacity of tank CX-72 is 2,340 gallons (8,860 liters).

The 241-CX Tank System no longer receives waste and will be closed under interim status.

IV. DESCRIPTION OF DANGEROUS WASTES

A. Dangerous Waste Number – Enter the digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four-digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.

B. Estimated Annual Quantity - For each listed waste entered in column A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. Unit of Measure - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate odes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
Pounds	P	Kilograms	K
Tons	T	Metric Tons	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. Processes

1. Process Codes:

   For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

   For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. Process Description: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

   NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

   1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
   2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
   3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

   Example for completing Section IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste.

Line No.	A. Dangerous Waste No. *(enter code)*				B. Estimated Annual Quantity of Waste	C. Unit of Measure *(enter code)*			D. Processes				
									1. Process Codes *(enter)*				2. Process Description *(if a code is not entered in D(1))*
X-1	*K*	*0*	*5*	*4*	*900*		*P*		*T03*	*D80*			
X-2	*D*	*0*	*0*	*2*	*400*		*P*		*T03*	*D80*			
X-3	*D*	*0*	*0*	*1*	*100*		*P*		*T03*	*D80*			
X-4	*D*	*0*	*0*	*2*					*T03*	*D80*			*Included with above*

Photocopy this page before completing if you have more than 26 wastes to list.

I.D. Number *(enter from page 1)*											
W	A	7	8	9	0	0	0	8	9	6	7

IV. DESCRIPTION OF DANGEROUS WASTES *(continued)*

Line No.	A. Dangerous Waste No. *(enter code)*				B. Estimated Annual Quantity of Waste	C. Unit of Measure *(enter code)*			D. Processes				
									1. Process Codes *(enter)*				2. Process Description *(if a code is not entered in D(1))*
1	D	0	0	2	19,000		P		S02				Storage - Tank (241-CX-70)
2	D	0	0	7			P		S02				Storage - Tank (241-CX-70)
3	W	T	0	2			P		S02				Storage - Tank (241-CX-70)
4	W	T	0	2	33,400		P		S02				Storage - Tank (241-CX-71)
5	D	0	0	2	19,530		P		S02				Storage - Tank (241-CX-72)
6	D	0	0	4			P		S02				Storage - Tank (241-CX-72)
7	D	0	0	5			P		S02				Storage - Tank (241-CX-72)
8	D	0	0	6			P		S02				Storage - Tank (241-CX-72)
9	D	0	0	7			P		S02				Storage - Tank (241-CX-72)
10	D	0	0	8			P		S02				Storage - Tank (241-CX-72)
11	D	0	0	9			P		S02				Storage - Tank (241-CX-72)
12	D	0	1	0			P		S02				Storage - Tank (241-CX-72)
13	D	0	1	1			P		S02				Storage - Tank (241-CX-72)
14	W	C	0	1			P		S02				Storage - Tank (241-CX-72)
15	W	C	0	2			P		S02				Storage - Tank (241-CX-72)
16	W	T	0	1			P		S02				Storage - Tank (241-CX-72)
17	W	T	0	2			P		S02				Storage - Tank (241-CX-72)
18													
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IV. DESCRIPTION OF DANGEROUS WASTE (continued)

E. Use this space to list additional process codes from Section D(1) on page 3.

Tank CX-70 was used to store high-level process mixed waste from the REDOX pilot studies. The mixed waste was considered corrosive (D002) because of the presence of sodium hydroxide. The mixed waste contained the toxicity characteristic waste chromium (D007) and was considered a toxic state-only (WT02). The estimated annual quantity of waste that was treated and stored in tank CX-70 is approximately 19,000 pounds (8,630 kilograms).

Tank CX-71 was used to store a mixture of materials that remained after large volumes of liquid process effluents were passed through the tank for the purpose of neutralization by contact with a bed of limestone aggregate placed in the tank for this purpose. The waste was considered toxic state-only waste (WT02) because of the presence of cyanides and nitrates. The estimated annual quantity of waste that was treated and stored in tank CX-71 is approximately 33,400 pounds (15,171 kilograms).

Tank CX-72 was used as an experimental tank to study the concentration of waste through the application of heat. This waste was generated from the pilot studies conducted at the Strontium Semiworks Complex. Decontamination flushes from the Strontium Semiworks Complex also might have been sent to tank CX-72. Based on a conservative designation, the mixed waste could consist of toxic constituents (D002, and D004 through D011), and state-only (WC02, WT01, and WT02). The estimated annual quantity of waste that was treated and stored in tank CX-72 is approximately 19,530 pounds (8,870 kilograms).

V. FACILIITY DRAWING Refer to attached drawing(s).

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS Refer to attached photograph(s).

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos.

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information," place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. Name of Facility's Legal Owner			2. Phone Number *(area code & no.)*
3. Street or P.O. Box	4. City or Town	5. St.	6. Zip Code

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name *(print or type)*	Signature	Date Signed
Keith A. Klein, Manager U.S. Department of Energy Richland Operations Office		7/1/02

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name *(Print Or Type)*	Signature	Date Signed
See attachment		

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

7/1/02

Owner/Operator
Keith A. Klein, Manager
U.S. Department of Energy
Richland Operations Office

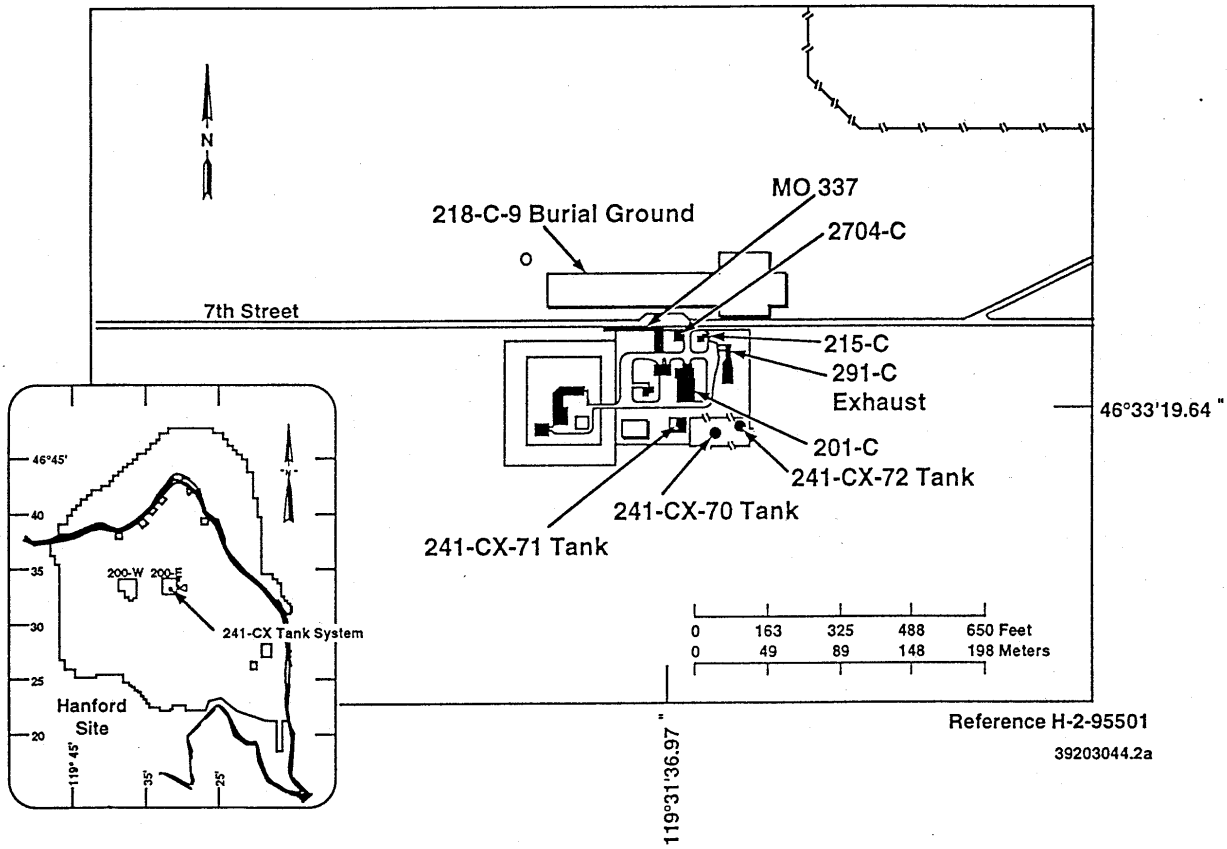
Date

5/30/02

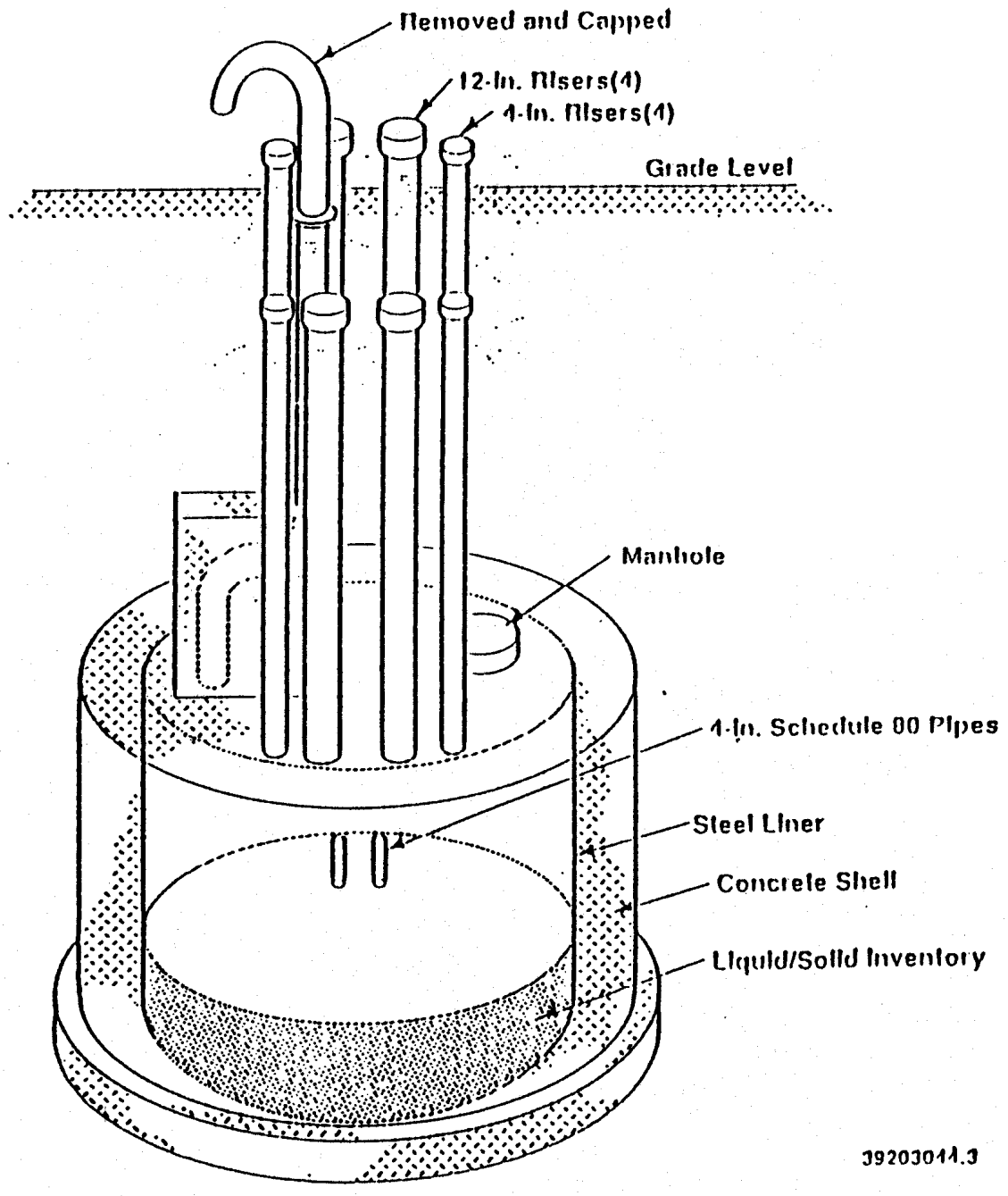
Co-operator
E. Keith Thomson
President and Chief Executive Officer
Fluor Hanford

Date

241-CX TANK SYSTEM SITE PLAN



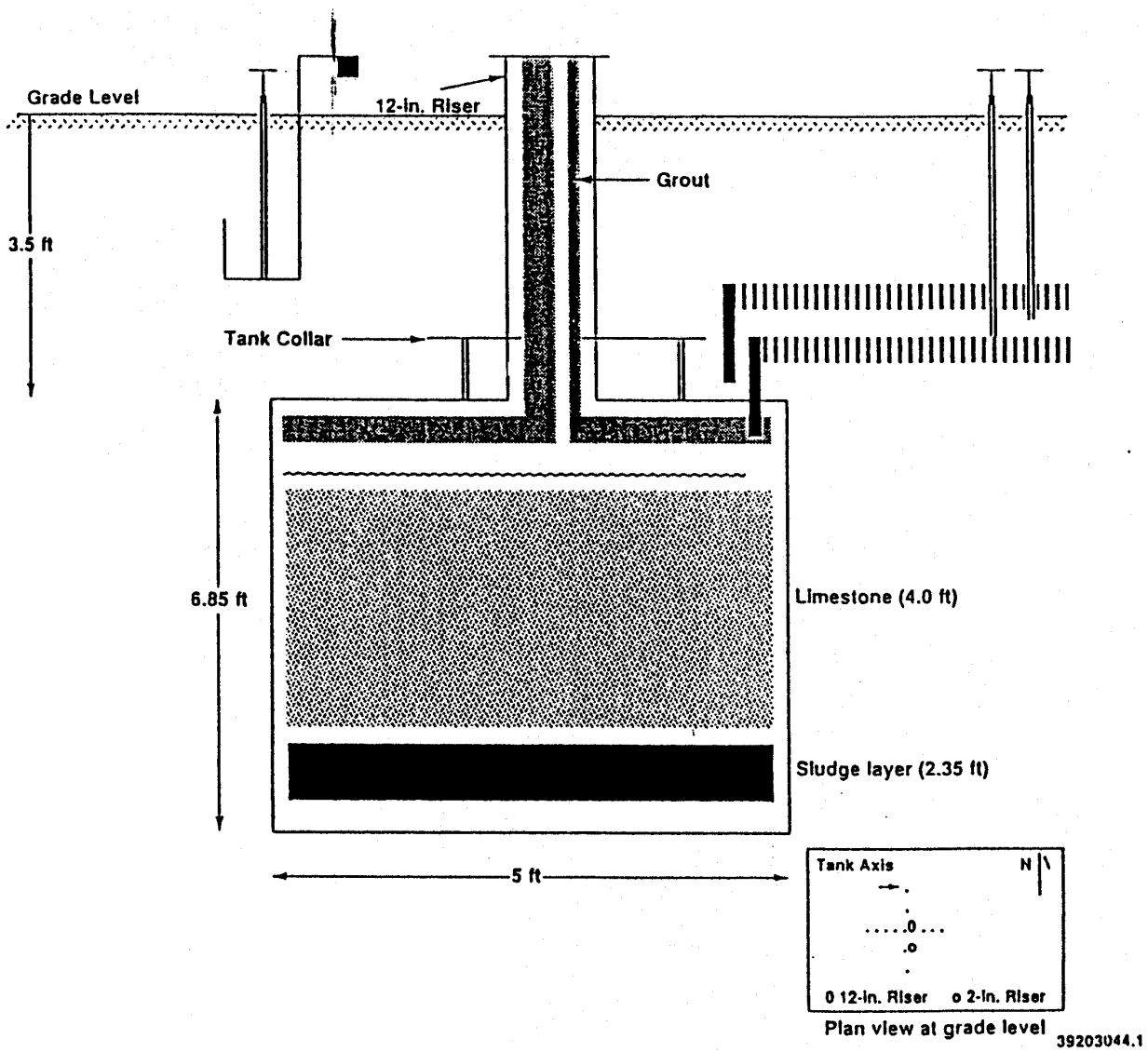
TANK 241-CX-70



For conversions, apply the following:

Liters to gallons - divide liters by 3.785.
Meters to feet - divide meters by 0.3048.
Centimeters to inches - divide centimeters by 2.54.

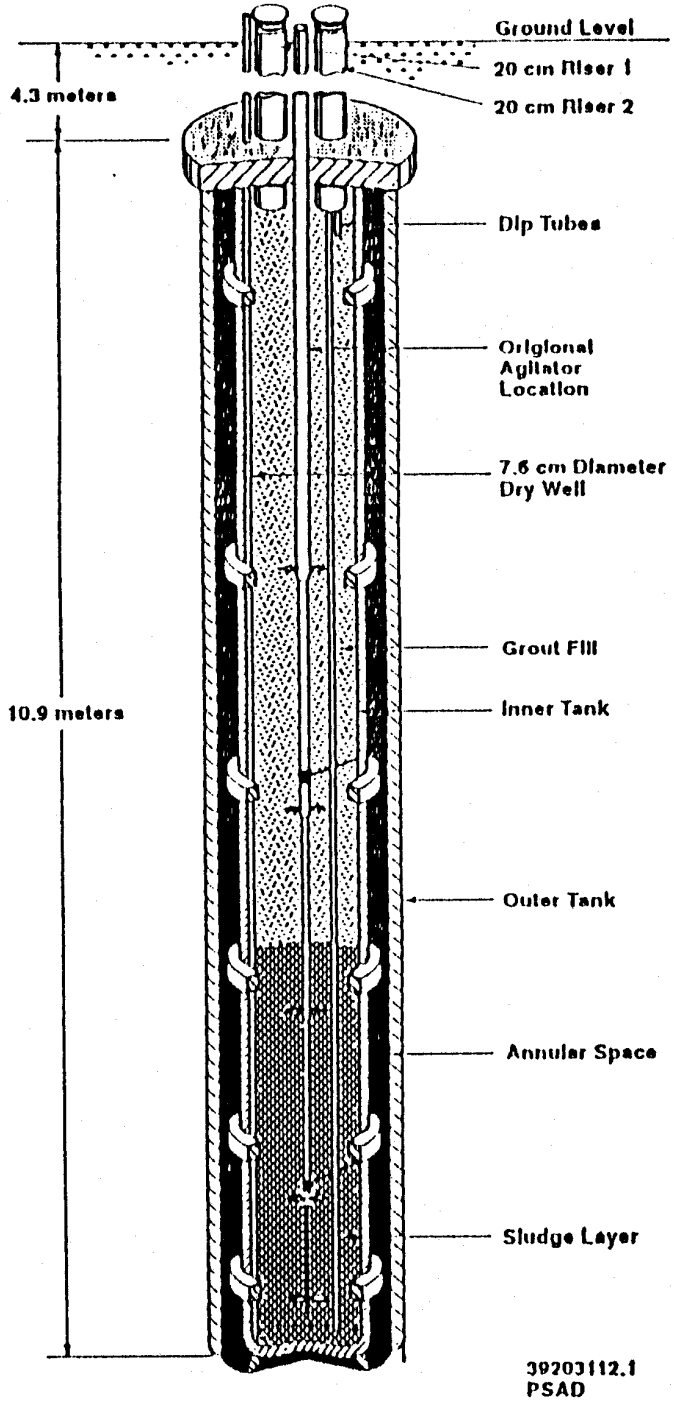
TANK 241-CX-71
CROSS-SECTIONAL VIEW



For conversions, apply the following:

Liters to gallons - divide liters by 3.785.
Meters to feet - divide meters by 0.3048.
Centimeters to inches - divide centimeters by 2.54.

TANK 241-CX-72
CUTAWAY DRAWING



For conversions, apply the following:

Liters to gallons - divide liters by 3.785.
Meters to feet - divide meters by 0.3048.
Centimeters to inches - divide centimeters by 2.54.

241-CX TANK SYSTEM
TANK 241-CX-70

46°33'20"
119°31'37"

93060151-3CN
(PHOTO TAKEN 1993)

241-CX TANK SYSTEM
TANK 241-CX-71

46°33'20"
119°31'37"

93060151-5CN
(PHOTO TAKEN 1993)

241-CX TANK SYSTEM
TANK 241-CX-72

46°33'20"
119°31'37"

93060151-1CN
(PHOTO TAKEN 1993)